# Fargo-Moorhead Metropolitan Flood Risk Management Project

Flood Diversion Board of Authority meeting July 10, 2014







US Army Corps of Engineers BUILDING STRONG $_{\mathbb{R}}$ 



### **Presentation Outline**

- Monthly Update
- Maple River Physical Model
- Cemetery Study

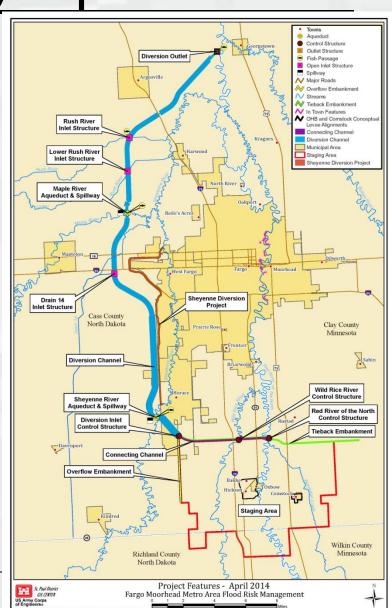


Fargo-Moorhead - 2009



## Corps Monthly Update

- Maple River Aqueduct Physical Modeling continues
- Oxbow/Hickson/Bakke Levee design continues
- Design continues on Wild Rice Dam fish passage structure removal
- Assisting with In-Town Levee design
- Continuing design of Reach 5
- Cemetery Study
- Continued coordination with MnDNR for their EIS process

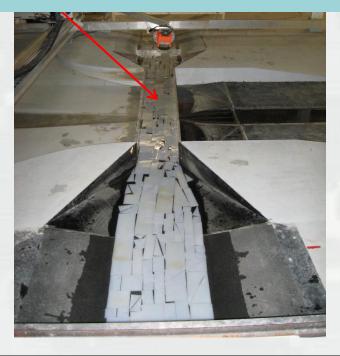


### Maple River Aqueduct

- Work continues on the model
- Open House: July 24, 2014 All are invited

Ice Study

Across aqueduct structure





- Management Project needs them
- How the model was built and why we use models
- Data collection and application
- Talk to the University of Minnesota, St. Anthony Falls Laboratory technicians and engineers who built the model and collected the data
- Talk to Fargo-Moorhead Metropolitan Flood Risk Management Project team members about the project

The 80-foot by 70-foot model, constructed by the St. Anthony Falls Laboratory for the Army Corps of Engineers and the project sponsors, allows engineers to learn how the water will flow through the aqueduct and how best to design the structures.

The open house will allow visitors to gain an understanding of the overall project and see how the aqueduct fits into the overall project plan.

 If you need reasonable accommodations, please send your request to Theresa Thury at [651] 290-5309. Sign language interpreter will be available from 10-11 a.m., if requested. All requests required by July 11.









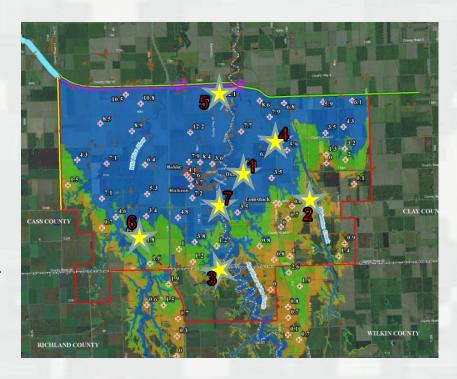
### Cemetery Study

### Impacted Sites - Staging Area

- Clara (Clay County)
- Comstock (Clay County)
- Hemnes (Richland County)
- Hoff (Clay County)
- Lower Wild Rice and Red River (LWRRR) (Cass Co.)
- North Pleasant (Cass Co.)
- Roen Family (Clay Co.)
- Additional-depth impacts range between 0.3 ft.
   and 8.3 ft.

### Impacted Sites – Upstream

- South Pleasant
- South Pleasant Church
- Wolverton-Salem Lutheran
- Eagle Valley
- Additional-depth impacts range between 0.1 ft. and 0.5 ft.





### Cemetery Study

- Study is available to the public on www.fmdiversion.com
  - Presents impacts to sites
  - Potential effects of flooding
  - Potential mitigation options
- Letters were sent to impacted and non-impacted sites.
  - Also posted on fmdiversion.com

- Next Steps
  - Additional site visits
  - Work with impacted sites
  - Develop a Mitigation Plan



#### Cemetery Study

#### Fargo Moorhead Metropolitan Area Flood Risk Management Project



U.S. Army Corps of Engineers St. Paul District June 2014

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Regional Planning and Environment Divis



Dear Mr. Lower Wild Rice

After the Supplemental Environmental As Risk Management Project (Project) was If Army Corps of Engineers (Corps) and the gathered information on cemeteries on both in the north to Abercrombie, North Dakot purpose of the cemetery study was to get benefits to cemeteries in the region, to ide to offset Project impacts, and to form a ge associated with regional cemeteries. Sour North Dakota Department of Health's Cer Geological Survey 7.5' topographic maps, ground surveys. Despite the thoroughness cemeteries that were not identified, but the identified.

Fifty-three cemeteries were identified duri area, and 15 upstream of the staging area, along the Maple River upstream of the Pr channel alignment near Horace, North Dal photograph, and analyze each cemetery. 5

has been identified in the staging area, bringing the total there to 7 cemeteries and the grand total to 54 cemeteries. Eleven of the 54 cemeteries (the 7 in the staging area and 4 upstream of the staging area) will potentially be flooded or flooded deeper with the Project in place than they would be under existing without Project conditions.

The enclosed Cemetery Study report lists (1) current and potential impacts to the cemeteries from flooding, (2) current and anticipated clean-up efforts after flooding, and (3) mitigation options to remedy or prevent potential Project-related impacts. This information was acquired during telephone and on-site interviews with funeral directors and cemetery representatives from 15 of the 54 cemeteries. The report provides tables with information on each of the 54 cemeteries, with separate tables for cemeteries in the staging area, for those upstream of the staging area, and for those in the benefitted area. There are also maps and photographs showing



# Project Path Forward

- Continue to support MN EIS process
- Continue to develop and review design products



### Next

- Administrative/Legal update
- Technical update

